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=> d bib ab ind 1-9

L27 ANSWER 1 OF 9 CA COPYRIGHT 2003 ACS
AN 137:62272 CA
TI Process for resolution of (R)-1,2-propanediol by microbial fermentation
IN Suzuki, Toshio; Idogaki, Hideaki; Nakagawa, Atsushi; Ueda, Miki
PA Daiso Co., Ltd., Japan
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI EP 1219715 A1 20020703 EP 2001-130920 20011227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2002253295 A2 20020910 JP 2001-387660 20011220
US 2002132314 A1 20020919 US 2001-22619 2001/12/20
PRAI JP 2000-394493 A 20001226
AB A process for prepn. of (R)-1,2-propanediol which comprises cultivating a
microorganism belonging to genus **Pseudomonas** or genus
Alcaligenes which has ability to assimilate (S)-1,2-propanediol as
a single carbon source, in a culture medium contg. racemic
1,2-propanediol
as a single carbon source and then isolating the remaining
(R)-1,2-propanediol from the culture broth. Thus, (R)-1,2-propanediol
was
produced by aerobic fermn. of **Pseudomonas nitroreducens**
DS-S-RP8 on a synthetic medium contg. racemic 1,2-propane diol as the
soul
carbon source. The fermn. was conducted at pH 6.9, 30 .degree.C, 0.2 vvm
aeration and 500 rpm. The process yielded 40% of the initial
1,2-propanediol offered with an enantiomeric excess of 99% for the
R-form.
IC ICM C12P007-18
ICS C12P041-00; C12N001-20
CC 16-5 (Fermentation and Bioindustrial Chemistry)
ST microbial fermn resoln propanediol
IT Culture media
(defined; resoln. of (R)-1,2-propanediol by microbial fermn.)
IT **Alcaligenes**
Extraction
Fermentation
Pseudomonas
Pseudomonas nitroreducens
Resolution (separation)
(resoln. of (R)-1,2-propanediol by microbial fermn.)
IT 57-55-6, 1,2-Propanediol, processes 4254-15-3,
(S)-1,2-Propanediol, processes
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(resoln. of (R)-1,2-propanediol by microbial fermn.)
IT 141-78-6, Ethyl acetate, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); PROC (Process)
(resoln. of (R)-1,2-propanediol by microbial fermn.)
IT 4254-14-2P, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(resoln. of (R)-1,2-propanediol by microbial fermn.)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 2 OF 9 CA COPYRIGHT 2003 ACS

AN 136:68813 CA

TI Process for the preparation of optically active 1,2-diols by cultivating microorganisms

IN Suzuki, Toshio; Idogaki, Hideaki; Nakagawa, Atsushi

PA Daiso Co., Ltd., Japan

SO Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT-NO.	KIND	DATE	APPLICATION NO.	DATE
PI.	EP 1167534	A2	20020102	EP 2001-115843	20010628
	EP 1167534	A3	20020417		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002000292	A2	20020108	JP 2000-194316	20000628
	US 2002019034	A1	20020214	US 2001-892743	20010628
PRAI	JP 2000-194316	A	20000628		

OS CASREACT 136:68813; MARPAT 136:68813

AB A process for the prepn. of an optically active 1,2-diol compd. of the following formula: wherein R is an alkyl group, hydroxy substituted alkyl group, or alkenyl group, which comprises reacting a corresponding racemic 1,2-diol compd. with a strain belonging to the genus **Alcaligenes** which is cultivated under aeration. Thus, **Alcaligenes** strain DS-S-1C resolved 50 g/L of racemic 1,2,4-butanetriol to the (R) isomer with a yield of 20.3 g/L and an enantiomeric selectivity > 98%.

IC ICM C12P007-18

ICS C12P007-42

ICI C12P007-18, C12R001-05; C12P007-42, C12R001-05

CC 16-5 (Fermentation and Bioindustrial Chemistry)

ST **Alcaligenes** resoln chiral diol

IT **Alcaligenes**

(aerobic microbial resoln. of optically active 1,2-diols)

IT Fermentation

(batch; aerobic microbial resoln. of optically active 1,2-diols)

IT Resolution (separation)

(kinetic, biol.; aerobic microbial resoln. of optically active 1,2-diols)

IT 57-55-6, 1,2-Propanediol, processes 96-24-2, 3-Chloro-1,2-propanediol 497-06-3, 1,2-Dihydroxy-3-butene 584-03-2, 1,2-Butanediol 3068-00-6, 1,2,4-Butanetriol 5343-92-0, 1,2-Pentanediol 6920-22-5, 1,2-Hexanediol

36842-44-1, 5-Hexene-1,2-diol

RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process) (aerobic microbial resoln. of optically active 1,2-diols)

IT 4254-14-2P, (R)-1,2-Propanediol, preparation 40348-66-1P, (R)-1,2-Butanediol 70005-88-8P, (R)-1,2,4-Butanetriol 84994-66-1P, (R)-1,2-Hexanediol 86106-09-4P 108340-61-0P, (R)-1,2-Pentanediol 133494-68-5P

RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)

(aerobic microbial resoln. of optically active 1,2-diols)

IT 1518-62-3P, 2,4-Dihydroxybutyric acid

RL: BYP (Byproduct); PREP (Preparation)

(aerobic microbial resoln. of optically active 1,2-diols)

Find

IT 1518-62-3DP, 2,4-Dihydroxybutyric acid, sodium salt
 RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant
 or reagent)
 (aerobic microbial resoln. of optically active 1,2-diols)

IT 52079-23-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (aerobic microbial resoln. of optically active 1,2-diols)

L27 ANSWER 3 OF 9 CA COPYRIGHT 2003 ACS
 AN 133:207692 CA
 TI Lipase-mediated partial resolution of 1,2-diol and 2-alkanol derivatives:
 towards chiral building-blocks for pheromone synthesis
 AU Izquierdo, Isidoro; Plaza, Maria T.; Rodriguez, Miguel; Tamayo, Juan
 CS Department of Organic Chemistry, Faculty of Pharmacy, University of
 Granada, Granada, 18071, Spain
 SO Tetrahedron: Asymmetry (2000), 11(8), 1749-1756
 CODEN: TASYE3; ISSN: 0957-4166
 PB Elsevier Science Ltd.
 DT Journal
 LA English

AB 1,2-Propanediol, 1-chloro-2-propanol and its related 2-O-acetate were
 partially resolved by chemo-enzymic acetylation and deacetylation, in the
 presence of *Pseudomonas fluorescens* lipase (Amano P.; PFL), to
 (R)-(-)-1-acetoxy-2-propanol, (R)-(+)-2-acetoxy-1-chloropropane and
 (R)-(-)-1-chloro-2-propanol, resp. On the other hand, treatment of
 (2RS)-2 (I; R1 = OH) with vinyl acetate in ether and Chirazyme L-2 gave
 2-O-acetyl-1,3,4-trideoxy-5,6:7,8-di-O-isopropylidene-.beta.-D-manno-non-5-
 ulo-5,9-pyranose I (R1 = .alpha.-OAc) (II) and
 1,3,4-trideoxy-5,6:7,8-di-O-
 isopropylidene-.beta.-D-gluco-non-5-ulo-5,9-pyranose I (R1 = .beta.-OH),
 resp. II was subsequently deacylated to I (R1 = .alpha.-OH). Both
 alcs.
 I (R1 = .beta.-OH) and I (R1 = .alpha.-OH) were treated with Me2CO/H+
 to
 cause their rearrangement to (2S,5R,8R,9R,10S)-10-hydroxy-8,9-iso-Pr
 idenedioxy-2-methyl-1,6-dioxaspiro[4.5]decane (III; R2 = .beta.-OH) and
 its (2R)-epimer III (R2 = .alpha.-OH), which closely matched the skeleton
 of the odor bouquet minor components of *Paravespula vulgaris* (L.).

CC 26-2 (Biomolecules and Their Synthetic Analogs)
 Section cross-reference(s): 7, 33

ST enzymic resoln alkanol alkanediol lipase; pheromone precursor acetyl
 trideoxy diisopropylidene mannnonulopyranose synthesis

IT Alcohols, preparation
 RL: BPN (Biosynthetic preparation); RCT (Reactant); BIOL (Biological
 study); PREP (Preparation); RACT (Reactant or reagent)
 (aliph.; lipase-mediated partial resoln. of 1,2-diol and 2-alkanol
 derivs. by chemoenzymic acetylation)

IT Pheromones, animal
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (chiral building-blocks for pheromone synthesis)

IT Acetylation
 (enzymic; lipase-mediated partial resoln. of 1,2-diol and 2-alkanol
 derivs. by chemoenzymic acetylation)

IT Resolution (separation)
 (enzymic; lipase-mediated partial resoln. of 1,2-diol and 2-alkanol
 derivs. for prepn. of building-blocks for pheromone synthesis)

IT Glycols, preparation
 RL: BPN (Biosynthetic preparation); RCT (Reactant); BIOL (Biological

study); PREP (Preparation); RACT (Reactant or reagent)
 (lipase-mediated partial resoln. of 1,2-diol and 2-alkanol derivs. by
 chemoenzymic acetylation)

IT 19141-39-0P 37493-16-6P 66536-77-4P 122088-46-4P 140459-97-8P
 151484-49-0P 151592-60-8P 289650-55-1P
 RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP
 (Preparation)
 (lipase-mediated partial resoln. of 1,2-diol and 2-alkanol derivs.:
 towards chiral building-blocks for pheromone synthesis)

IT 623-60-9P 4254-15-3P, preparation 151484-47-8P 151484-59-2P
 289650-52-8P 289650-54-0P
 RL: BPN (Biosynthetic preparation); RCT (Reactant); BIOL (Biological
 study); PREP (Preparation); RACT (Reactant or reagent)
 (lipase-mediated partial resoln. of 1,2-diol and 2-alkanol derivs.:
 towards chiral building-blocks for pheromone synthesis)

IT 9001-62-1, Lipase
 RL: BPR (Biological process); BSU (Biological study, unclassified); CAT
 {Catalyst use}; BIOL {Biological study}; PROC {Process}; USES {Uses}
 (lipase-mediated partial resoln. of 1,2-diol and 2-alkanol derivs.:
 towards chiral building-blocks for pheromone synthesis)

IT 57-55-6, 1,2-Propanediol, reactions 108-05-4, Acetic acid ethenyl
 ester,
 reactions 127-00-4 289725-51-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (lipase-mediated partial resoln. of 1,2-diol and 2-alkanol derivs.:
 towards chiral building-blocks for pheromone synthesis)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 4 OF 9 CA COPYRIGHT 2003 ACS

AN 132:346678 CA

TI Synthesis and properties of hydroxy-terminated poly(hydroxyalkanoate)s

AU Shah, Devang T.; Tran, Minhtien; Berger, Pierre A.; Aggarwal, Poonam;
 Asrar, Jawed; Madden, Leigh A.; Anderson, Alistair J.

CS Monsanto Co., St. Louis, MO, 63167, USA

SO Macromolecules (2000), 33(8), 2875-2880

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

AB This paper describes the biosynthesis and properties of bacterial
 poly(hydroxyalkanoate)s (PHA) with predominantly hydroxyl end groups.
 Hydroxy termination is achieved by the addn. of low mol. wt. diols to the
 culture. Low mol. wt. diols of various structures were easily
 incorporated as chain ends, when used during fermn., by a variety of
 microorganisms. Incorporation of a chiral diol does not appear to be
 stereospecific; both (R)- and (S)-1,2-propanediols were incorporated into
 the polymer. Moreover, both primary and secondary hydroxyl groups of
 1,2-propanediol were found to have reacted. It was found that an

increase

in the hydroxy termination in poly(3-hydroxybutyrate) leads to an

increase

in the thermal stability, most likely by prolonging the condensation
 reaction and delaying the degrdn. reaction.

CC 16-5 (Fermentation and Bioindustrial Chemistry)

Section cross-reference(s): 35

ST hydroxy termination polyhydroxyalkanoate fermn propanediol

IT Polyesters, preparation

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP
 (Preparation)

(hydroxycarboxylic acid-based, hydroxy-terminated; synthesis and properties of hydroxy-terminated poly(hydroxyalkanoate)s)

IT **Comamonas testosteroni**
Fermentation
Ralstonia eutropha
(synthesis and properties of hydroxy-terminated poly(hydroxyalkanoate)s)

IT 29435-48-1P, Butanoic acid, 3-hydroxy-, (R)-, homopolymer 125495-90-1P, Butanoic acid, 3-hydroxy-, (3R)-, polymer with 4-hydroxybutanoic acid
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and properties of hydroxy-terminated poly(hydroxyalkanoate)s)

IT 4254-14-2, (R)-1,2-Propanediol, biological studies
4254-15-3, (S)-1,2-Propanediol, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(synthesis and properties of hydroxy-terminated poly(hydroxyalkanoate)s)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 5 OF 9 CA COPYRIGHT 2003 ACS

AN 126:117128 CA

TI Microbially catalyzed optical resolution of chlorohydrins

IN Kasai, Naoya; Suzuki, Toshio; Idogaki, Hideaki

PA Daiso Co., Ltd., Japan

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 745681	A2	19961204	EP 1996-108451	19960528
	EP 745681	A3	19971112		
	EP 745681	B1	20010829		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
	US 5776766	A	19980707	US 1996-651935	19960521
	JP 09047296	A2	19970218	JP 1996-128242	19960523
	JP 3123428	B2	20010109		
	ES 2161942	T3	20011216	ES 1996-108451	19960528
PRAI	JP 1995-130182	A	19950529		

OS MARPAT 126:117128

AB A novel method for prepg. an optically active chlorohydrin compd. and an optically active 1,2-diol compd. and/or optically active 3-hydroxy-.gamma.-butyrolactone which are useful as intermediates for prepg. medicaments, agricultural chems., physiol. active substances, and ferroelec. liq. crystals, which comprises treating a racemic chlorohydrin compd. having the formula C1(R1)CHCH(R2)OH (wherein R1 is H or a lower alkyl group and R2 is a substituted or unsubstituted lower alkyl group when R1 is H or R2 is H when R1 is a lower alkyl group) with a microorganism, thereby selectively degrading only 1 optical isomer thereof

and recovering the remaining other optically active chlorohydrin and isolating the optically active 1,2-diol and/or optically active 3-hydroxy-.gamma.-butyrolactone converted by the reaction.

IC ICM C12P041-00

ICI C12P041-00, C12R001-38; C12P041-00, C12R001-07

CC 16-1 (Fermentation and Bioindustrial Chemistry)
 ST chlorohydrin oxidn dechlorination resoln bacteria
 IT Bacillus sphaericus
 Citrobacter freundii
 Enterobacter
 Pseudomonas
 (microbially catalyzed optical resoln. of chlorohydrins)
 IT 4254-15-3P, preparation 7331-52-4P 58081-05-3P 73522-17-5P
 74923-98-1P 86728-85-0P 86728-93-0P 86728-94-1P 88496-70-2P
 90835-97-5P 90835-98-6P 90866-33-4P 112635-76-4P 114819-45-3P
 127913-44-4P 143780-79-4P 185033-57-2P 185033-58-3P 185033-60-7P
 185033-63-0P 185033-69-6P 186091-55-4P
 RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP
 (Preparation)
 (microbially catalyzed optical resoln. of chlorohydrins)
 IT 78-89-7, 2-Chloro-1-propanol 96-24-2D, Chlorohydrin, derivs.
 105-33-9,
 4-Chloro-3-hydroxybutyronitrile 2203-34-1 4151-97-7 4151-98-8,
 2-Propanol, 1-chloro-3-ethoxy- 10488-68-3, Methyl 4-chloro-3-
 hydroxybutyrate 10488-69-4, Ethyl 4-chloro-3-hydroxybutyrate
 26106-95-6, 2-Chloro-1-butanol 89693-37-8 100596-47-2, Propyl
 4-chloro-3-hydroxybutyrate 185033-56-1
 RL: BPR (Biological process); BSU (Biological study, unclassified); RCT
 (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or
 reagent)
 (microbially catalyzed optical resoln. of chlorohydrins)

L27 ANSWER 6 OF 9 CA COPYRIGHT 2003 ACS

AN 123:167740 CA

TI Manufacture of optically active 1,2-diols and halogenohydrins with
 microbial enzymes

IN Suzuki, Toshio; Kasai, Naoya; Minamiura, Yoshichika

PA Daisow Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07147993	A2	19950613	JP 1993-296419	19931126
	JP 3077478	B2	20000814		
PRAI	JP 1993-296419		19931126		

OS MARPAT 123:167740

AB Optically active R1R2CHCH2R1 [R1 = OH, halo; R2 = (un)substituted alkyl,
 alkenyl, aryl, when R1 = OH; R2 = CH2OH when R1 = halo] (I) are manufd.

by

treatment of racemic I with dehalogenase. Racemic 1,2-butanediol was
 treated with crude dehalogenase of *Alcaligenes*, phenazine
 methosulfate, and 2,6-dichlorophenolindophenol in phosphate buffer at
 30.degree. for 4 h to manuf. 40.8% (R)-1,2-butanediol (optical purity
 97.5% ee).

IC ICM C12P041-00

ICI C12P041-00, C12R001-05

CC 16-5 (Fermentation and Bioindustrial Chemistry)

ST optically active diol manuf dehalogenase; halohydrin optically active
 manuf dehalogenase; resoln diol halohydrin dehalogenase

IT *Alcaligenes*

(manuf. of optically active diols or halohydrins with dehalogenase of
Alcaligenes from racemates (by using electron acceptors))

IT Glycols, preparation
 RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation);
 RACT (Reactant or reagent)
 (manuf. of optically active diols or halohydrins with dehalogenase of
Alcaligenes from racemates (by using electron acceptors))

IT Resolution
 (biochem., manuf. of optically active diols or halohydrins with
 dehalogenase of **Alcaligenes** from racemates (by using electron
 acceptors))

IT 53-59-8, NADP 53-84-9, NAD 61-73-4, Methylene blue 288-94-8D,
 1H-Tetrazole, onium 299-11-6, Phenazine methosulfate 956-48-9, DCIP
 (analytical reagent) 1910-42-5 2701-91-9 13408-62-3, Ferricyanide
 ion 76905-70-9 167173-65-1
 RL: NUU (Other use, unclassified); USES (Uses)
 (electron acceptor; manuf. of optically active diols or halohydrins
 with dehalogenase of **Alcaligenes** from racemates (by using
 electron acceptors))

IT 4254-14-2P, preparation 16355-00-3P 40348-66-1P 60827-45-4P,
 (S)-3-Chloro-1,2-propanediol 78692-89-4P 78843-64-8P 83165-35-9P
 84994-66-1P 86106-09-4P 87720-90-9P 108340-61-0P 133494-68-5P
 137490-63-2P
 RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL
 (Biological study); PREP (Preparation)
 (manuf. of optically active diols or halohydrins with dehalogenase of
Alcaligenes from racemates (by using electron acceptors))

IT 9015-72-9, Dehalogenase
 RL: CAT (Catalyst use); USES (Uses)
 (manuf. of optically active diols or halohydrins with dehalogenase of
Alcaligenes from racemates (by using electron acceptors))

IT 4254-16-4, 1,2-Propanediol, (.+-.)-, reactions 7138-28-5 26171-83-5
 34637-21-3 52340-46-2 82571-11-7, 1,2-Heptanediol, (.+-.)-
 82890-22-0 86161-40-2 87720-89-6, 1,2-Octanediol, (.+-.)-
 87760-48-3, 1,2-Hexanediol, (.+-.)- 91049-43-3, 1,2-Pentanediol,
 (.+-.)-
 116499-75-3 133576-12-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (manuf. of optically active diols or halohydrins with dehalogenase of
Alcaligenes from racemates (by using electron acceptors))

L27 ANSWER 7 OF 9 CA COPYRIGHT 2003 ACS

AN 121:106612 CA

TI A novel generation of optically active 1,2-diols from the racemates by
 using halohydrin dehydro-dehalogenase

AU Suzuki, Toshio; Kasai, Naoya; Minamiura, Noshi

CS Res. Lab., Daiso, Co., Ltd, Amagasaki, 660, Japan

SO Tetrahedron: Asymmetry (1994), 5(2), 239-46

CODEN: TASYE3; ISSN: 0957-4166

DT Journal

LA English

AB A novel enzyme dehalogenating halohydrins, designated as halohydrin
 dehydro-dehalogenase (HDDase), was purified from **Alcaligenes** sp.
 DS-S-7G. The enzyme catalyzed oxidative dehalogenation of
 (R)-3-chloro-1,2-propanediol [monochlorohydrin (MCH)] to acetic acid and
 formaldehyde via hydroxyacetone stereoselectively by the addn. of
 artificial electron acceptors. The dehalogenating activity was much
 higher in the presence of 2,6-dichlorophenolindophenol (DCIP) and
 phenazine methosulfate (PMS). The resulting stereoselective
 dehydro-dehalogenation was applicable to prepn. of various optically
 active halohydrins and 1,2-diols so that the resp. residual isomers had
 excellent enantiomeric excesses (ee) (60-99% ee).

CC 16-5 (Fermentation and Bioindustrial Chemistry)
 ST diol enzymic resoln dehydro dehalogenase **Alcaligenes**; halohydrin
 dehydro dehalogenase **Alcaligenes** enzymic resoln
 IT **Alcaligenes**
 (halohydrin dehydro-dehalogenase of, optically active diols prepn.
 with)
 IT Fermentation
 (optically active diols, with halohydrin
 dehydro-dehalogenase-producing
Alcaligenes)
 IT Glycols, biological studies
 Halohydrins
 RL: PREP (Preparation)
 (optically active, halohydrin dehydro-dehalogenase of
Alcaligenes for prepn. of)
 IT Resolution
 (enzymic, optically active diols prepn. by, with halohydrin
 dehydro-dehalogenase of **Alcaligenes**)
 IT 299-11-6, Phenazine methosulfate 956-48-9, 2,6-Dichlorophenolindophenol
 RL: BIOL (Biological study)
 (for enhancement of optically active diols prepn. with halohydrin
 dehydro-dehalogenase of **Alcaligenes**)
 IT 132421-41-1, Halohydrin dehydro-dehalogenase
 RL: BIOL (Biological study)
 (of **Alcaligenes**, for prepn. of optically active diols and
 hydrins by enzymic resoln.)
 IT 4254-14-2P, (R)-1,2-Propanediol, biological studies 16355-00-3P
 40348-66-1P, (R)-1,2-Butanediol 60827-45-4P, (S)-3-Chloro-1,2-
 propanediol 78692-89-4P 83165-35-9P 84994-66-1P, (R)-1,2-Hexanediol
 86106-09-4P 108340-61-0P 133494-68-5P 137490-63-2P
 RL: PREP (Preparation)
 (prepn. of, with halohydrin dehydro-dehalogenase of **Alcaligenes**
 by enzymic resoln.)
 IT 57090-45-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with halohydrin dehydro-dehalogenase of
Alcaligenes)

L27 ANSWER 8 OF 9 CA COPYRIGHT 2003 ACS

AN 120:242696 CA

TI Enzymic resolution of 1,2-propanediol with **Pseudomonas**

IN Nikaido, Teruyuki; Kawada, Naoki

PA Daicel Chem, Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06030790	A2	19940208	JP 1992-188138	19920715
	JP 3157609	B2	20010416		
PRAI	JP 1992-188138		19920715		

AB Optical active 1,2-propanediol (I) is prepd. with **Pseudomonas** by
 enzymic resoln. (R)-I is prepd. from racemate with P. Putida TRB-2 and

-4

and **Pseudomonas** sp. TRP-13 by degrdn. of the (S)-I. (S)-I is
 prepd. from racemate with P. Putida TRP-7 by degrdn. of the (R)-I. The
 physiol. and morphol. characteristics of these **Pseudomonas** were
 given.

IC ICM C12P041-00
 ICS C12N001-20
 ICI C12P041-00, C12R001-38; C12P041-00, C12R001-40; C12N001-20, C12R001-38;
 C12N001-20, C12R001-40
 CC 16-5 (Fermentation and Bioindustrial Chemistry)
 ST propanediol enzymic resoln *Pseudomonas*
 IT *Pseudomonas*
 Pseudomonas putida
 (enzymic resoln. of propanediol with)
 IT Resolution
 (enzymic, of propanediol, with *Pseudomonas*)
 IT 4254-16-4, DL-1,2-Propanediol, biological studies
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (enzymic resoln. of, with *Pseudomonas*)
 IT 4254-14-2P, (R)-1,2-Propanediol, biological studies
 4254-15-3P, (S)-1,2-Propanediol, biological studies
 RL: PREP (Preparation)
 (prepn. of, with *Pseudomonas* by enzymic resoln.)

L27 ANSWER 9 OF 9 CA COPYRIGHT 2003 ACS
 AN 108:109140 CA
 TI Electroenzymic and electromicrobial reduction: preparation of chiral
 compounds
 AU Thanos, Iordanis; Bader, Johann; Guenther, Helmut; Neumann, Stefan;
 Krauss, Friedrich; Simon, Helmut
 CS Org.-Chem. Inst., Tech. Univ. Munchen, Garching, D-8046, Fed. Rep. Ger.
 SO Methods in Enzymology (1987), 136(Immobilized Enzymes Cells, Pt. C),
 302-17
 CODEN: MENZAU; ISSN: 0076-6879
 DT Journal
 LA English
 AB Principles, substrate specificity and kinetic data of (2R)-
 hydroxycarboxylate-halogen oxidoreductase (I), and factors detg. the
 design of the electrochem. cell are discussed. Procedures for purifn. of
 enoate reductase (II) and I are given. Enzyme assays in cuvettes,
 immobilization of II in Ca alginate gels, repeated use of immobilized II,
 use of whole cells of *Clostridium* La 1 or partially purified I, and
 (R)-propanediol prepn. by the combination of *Candida utilis* and
Alcaligenes eutrophus.
 CC 9-14 (Biochemical Methods)
 Section cross-reference(s): 7
 ST redn electroenzyme electromicrobial; chiral compd electroenzymic
 electromicrobial redn
 IT Reduction
 (electroenzymic and electromicrobial, in prepn. of chiral compds.)
 IT Immobilization, biochemical
 (in electroenzymic and electromicrobial redn. in prepn. of chiral
 compds.)
 IT 70712-51-5, Enoate reductase 70852-00-5
 RL: ANST (Analytical study)
 (electroenzymic redn. with, in prepn. of chiral compds.)
 IT 4254-14-2P, preparation
 RL: PREP (Preparation)
 (prepn. of, by electroenzymic redn.)

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=> d bib ab 2 27 42

L32 ANSWER 2 OF 61 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-637829 [69] WPIDS
DNC C2002-180165
TI Preparing (R)-1,2-propanediol from racemic
1,2 propanediol, for use in preparing
pharmaceuticals and agrochemicals, comprises using a microorganism which
can stereoselectively assimilate the (S)-isomer as a single carbon
source.

DC B05 C03 D16
IN IDOGAKI, H; NAKAGAWA, A; SUZUKI, T; UEDA, M
PA (OSAS) DAISO CO LTD; (IDOG-I) IDOGAKI H; (NAKA-I) NAKAGAWA A; (SUZU-I)
SUZUKI T; (UEDA-I) UEDA M
CYC 29
PI EP 1219715 A1 20020703 (200269)* EN 13p
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR

CA 2365805 A1 20020626 (200269) EN
US 2002132314 A1 20020919 (200269)
JP 2002253295 A 20020910 (200274) 8p
ADT EP 1219715 A1 EP 2001-130920 20011227; CA 2365805 A1 CA 2001-2365805
20011221; US 2002132314 A1 US 2001-22619 20011220; JP 2002253295 A JP
2001-387660 20011220

PRAI JP 2000-394493 20001226
AB EP 1219715 A UPAB: 20021026
NOVELTY - Preparing (R)-1,2-propanediol can
be prepared from racemic 1,2-propanediol
comprises using a microorganism which can stereoselectively assimilate
the
(S)-isomer as a single carbon source.

DETAILED DESCRIPTION - Preparing of (R)-1,2-
propanediol comprises cultivating a microorganism belonging to the
genus *Pseudomonas* or *Alcaligenes* which has the ability
to assimilate (S)-1,2-propanediol as a
single carbon source, and to grow in a culture medium containing a
racemic
1,2-propanediol as a single carbon source,
stereoselectively assimilating (S)-1,2propanediol, and then isolating

(R)-
1,2-propanediol from the culture broth.

An INDEPENDENT CLAIM is also included for *Pseudomonas*
nitroreducens DS S-RP8 (Deposit No.: FERM BP-7793).

USE - The method is used to prepare (R)-1,2-
propanediol (claimed), which is useful as an intermediate in the
preparation of optically active compounds, e.g. pharmaceuticals and
agrochemicals.

ADVANTAGE - The method is more economical and simpler than previous
methods.

Dwg.0/0

L32 ANSWER 27 OF 61 WPIDS (C) 2003 THOMSON DERWENT
AN 1994-079306 [10] WPIDS
DNC C1994-035959
TI Prodn. of optically active 1,2-propane- diol - by treating enantiomer
mixt. of 1,2-propane-diol with microorganisms or their processed prod
capable of converting enantiomer mixt. to (R)-1,2-propane-diol.
DC B05 C03 D16 E17 L03
PA (DAIL) DAICEL CHEM IND LTD

CYC 1
PI JP 06030790 A 19940208 (199410)* 11p
JP ~~3157609~~ B2 20010416 (200124) 11p
ADT JP 06030790 A JP 1992-188138 19920715; JP 3157609 B2 JP 1992-188138 19920715
FDT JP 3157609 B2 Previous Publ. JP 06030790
PRAI JP 1992-188138 19920715
AB JP 06030790 A UPAB: 19940421
Prodn. of (R)-1,2-**propanediol** comprises (a) treating an enantiomer mixt of 1,2-**propanediol** with a microorganism or its processed prod capable of converting an enantiomer mixt of 1,2-**propanediol** into (R)-1,2-**propanediol** and (b) recovering the remaining (R)-1,2-**propanediol**.

Also are new: prodn. of (S)-1,2-**propanediol** which comprises (a) treating an enantiomer mixt of 1,2-**propanediol** with a microorganism of **Pseudomonas** or its processed prod capable of converting an enantiomer mixt of 1,2-**propanediol** into (S)-1,2-**propanediol** and (b) recovering the remaining (S)-1,2-**propanediol**; and a novel microorganism of **pseudomonas** capable of metabolising and decomposing one of enantiomer of 1,2-**propanediol** stereospecifically.

USE/ADVANTAGE - The 1,2-**propanediol** is useful as a starting material for liq crystals, pharmaceuticals or agrochemicals. The process provides optically active 1,2-**propanediol** in high optical purity.
Dwg.O/O

L32 ANSWER 42 OF 61 WPIDS (C) 2003 THOMSON DERWENT
AN 1989-159087 [22] WPIDS
DNC C1989-070596
TI Prodn. of S-1,2-diol cpds. from R-1,2-diol or racemate - using microorganism capable of inverting or selectively metabolising the R-1,2-diol.
DC B05 C03 D16
IN HASEGAWA, J; OGURA, M; SHIRASHI, T; TAKHASHI, H; SHIRAIISHI, T; TAKAHASHI, H
PA (KANF) KANEGAFUCHI KAGAKU KOGYO KK
CYC 11
PI EP 317998 A 19890531 (198922)* EN 16p
R: BE CH DE FR GB IT LI NL
JP 02128699 A 19900517 (199026)
US ~~4981796~~ A 19910101 (199104) 6p
EP 317998 B1 19940831 (199433) EN 18p
R: BE CH DE FR GB IT LI NL
DE 3851306 G 19941006 (199439)
CA 1336415 C 19950725 (199537)
JP 2784578 B2 19980806 (199836) 11p
ADT EP 317998 A EP 1988-119583 19881124; JP 02128699 A JP 1988-289721 19881116; US 4981796 A US 1988-275200 19881123; EP 317998 B1 EP 1988-119583 19881124; DE 3851306 G DE 1988-3851306 19881124, EP 1988-119583 19881124; CA 1336415 C CA 1988-584066 19881124; JP 2784578 B2 JP 1988-289721 19881116
FDT DE 3851306 G Based on EP 317998; JP 2784578 B2 Previous Publ. JP 02128699
PRAI JP 1987-296494 19871125; JP 1988-165484 19880701; JP 1988-167197 19880705
AB EP 317998 A UPAB: 19930923
Prodn. of optically active (S)-1,2-diols (II) comprises subjecting

(R)-1,2-diols (I) is mixts of (I) and (II) to the action of a microorganism capable of selectively metabolising (I) and/or converting (I) into (II); and recovering the accumulated (II): where R=opt. substd. alkyl, alkenyl, aryl or aralkyl.

The substrates are (R, S)-1,2-butanediol, (r, S)-1,2-pentanediol, (R, S)-1,2-hexanediol, (R, S)-1,2-heptanediol, (R, S)-1-phenyl-1,2-ethanediol, (R, S)-3-phenyl-1,2-propanediol and (R, S)-4-phenyl-1,2-butanediol, forming corresp. (S)-1,2-diols as prods.

USE/ADVANTAGE - (II) are useful in synthesis of physiologically active cpds. useful in pharmaceuticals and agricultural chemicals. The process is commercially advantageous.
0/0

=>

=> d bib ab 1-4

L47 ANSWER 1 OF 4 USPATFULL

AN 2002:243128 USPATFULL

TI Process for preparation of (R)-1,-2-propanediol by microbes

IN Suzuki, Toshio, Osaka-shi, JAPAN

Idogaki, Hideaki, Osaka-shi, JAPAN

Nakagawa, Atsushi, Osaka-shi, JAPAN

Ueda, Miki, Asaka-shi, JAPAN

PI US 2002132314 A1 20020919

AI US 2001-22619 A1 20011220 (10)

PRAI JP 2000-394493 20001226

DT Utility

FS APPLICATION

LREP WENDEROTH, LIND & PONACK, L.L.P., 2033 K STREET N. W., SUITE 800,
WASHINGTON, DC, 20006-1021

CLMN Number of Claims: 5

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 497

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for preparation of (R)-1,2-propanediol which comprises cultivating a microorganism belonging to genus **Pseudomonas** or genus **Alcaligenes** which has ability to assimilate (S)-1,2-propanediol as a single carbon source, in a culture medium containing racemic 1,2-propanediol as a single carbon source and then isolating the remaining (R)-1,2-propanediol from the culture broth.

L47 ANSWER 2 OF 4 USPATFULL

AN 2002:32213 USPATFULL

TI Process for preparation of optically active 1,2-diols by cultivating microorganisms

IN Suzuki, Toshio, Osaka-shi, JAPAN

Idogaki, Hideaki, Osaka-shi, JAPAN

Nakagawa, Atsushi, Osaka-shi, JAPAN

PI US 2002019034 A1 20020214

AI US 2001-892743 A1 20010628 (9)

PRAI JP 2000-194316 20000628

DT Utility

FS APPLICATION

LREP WENDEROTH, LIND & PONACK, L.L.P., 2033 K STREET N. W., SUITE 800,
WASHINGTON, DC, 20006-1021

CLMN Number of Claims: 10

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 363

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for preparation of an optically active 1,2-diol compound of the following formula: ##STR1##

wherein R is alkyl group, hydroxy substituted alkyl group, or alkenyl group, which comprises reacting a corresponding racemic 1,2-diol compound with a strain belonging to the genus **Alcaligenes** which is cultivating under the aeration.

L47 ANSWER 3 OF 4 USPATFULL

AN 1998:79013 USPATFULL

TI Optical resolution of chlorohydrin with microorganism

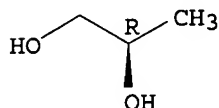
IN Kasai, Naoya, Osaka-fu, Japan

Suzuki, Toshio, Osaka-fu, Japan
 Idogaki, Hideaki, Hyogo-ken, Japan
 PA Daiso Co., Ltd., Osaka, Japan (non-U.S. corporation)
 PI US 5776766 19980707
 AI US 1996-651935 19960521 (8)
 PRAI JP 1995-130182 19950529
 DT Utility
 FS Granted
 EXNAM Primary Examiner: Beisner, William H.
 LREP Jacobson, Price, Holman & Stern, PLLC
 CLMN Number of Claims: 16
 ECL Exemplary Claim: 1
 DRWN No Drawings
 LN.CNT 1226
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB A novel method for preparing optically active chlorohydrin compound and optically active 1,2-diol compound and/or optically active 3-hydroxy- γ -butyrolactone which are useful as intermediates for preparing medicaments, agricultural chemicals, physiologically active substances and ferroelectric liquid crystals, which comprises treating
 a racemic chlorohydrin compound having the formula: ##STR1## wherein R.sup.1 is H or lower alkyl group; and R.sup.2 is substituted or unsubstituted lower alkyl group when R.sup.1 is H; or R.sup.2 is H when R.sup.1 is lower alkyl group with a microorganism, whereby selectively degrading only one of optical isomers thereof, and recovering the remaining an other optically active chlorohydrin and isolating optically active 1,2-diol compound and/or optically active 3-hydroxy- γ -butyrolactone converted by the reaction.
 L47 ANSWER 4 OF 4 USPATFULL
 AN 84:43961 USPATFULL
 TI Carrying out electromicrobial reductions
 IN Simon, Helmut, Freising, Germany, Federal Republic of
 Bader, Johann, Neufahrn, Germany, Federal Republic of
 Guenther, Helmut, Haag, Germany, Federal Republic of
 PA BASF Aktiengesellschaft, Germany, Federal Republic of (non-U.S. corporation)
 PI US 4464235 19840807
 AI US 1983-513838 19830714 (6)
 PRAI DE 1982-3226888 19820717
 DT Utility
 FS Granted
 EXNAM Primary Examiner: Niebling, John F.
 LREP Keil & Weinkauff
 CLMN Number of Claims: 1
 ECL Exemplary Claim: 1
 DRWN No Drawings
 LN.CNT 351
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB An electromicrobial reduction with the aid of aerobic microorganisms in the absence of oxygen is described.

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L12 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
 RN 4254-14-2 REGISTRY
 CN 1,2-Propanediol, (R)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 1,2-Propanediol, (R)-(-)- (8CI)
 OTHER NAMES:
 CN (-)-1,2-Propanediol
 CN (-)-Propylene glycol
 CN **(R)-1,2-Propanediol**
 CN (R)-2-Hydroxy-1-propanol
 CN 1-Deoxy-sn-glycerol
 CN D-(-)-Propanediol
 CN R-(-)-1,2-Propanediol
 CN R-(-)-Propylene glycol
 FS STEREOSEARCH
 MF C3 H8 O2
 CI COM
 LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CBNB,
 CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSChem, DETHERM*, GMELIN*,
 MEDLINE, PROMT, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

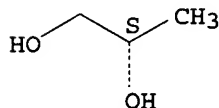
176 REFERENCES IN FILE CA (1962 TO DATE)
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 178 REFERENCES IN FILE CAPLUS (1962 TO DATE)

~~42~~

42, 27, 2

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
 RN 4254-15-3 REGISTRY
 CN 1,2-Propanediol, (S)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 1,2-Propanediol, (S)-(+)- (8CI)
 OTHER NAMES:
 CN (+)-(S)-1,2-Propanediol
 CN (+)-1,2-Propanediol
 CN (S)-(+)-Propylene glycol
 CN (S)-1,2-Propanediol
 CN (S)-2-Hydroxy-1-propanol
 CN 1,2-(S)-Propanediol
 CN 3-Deoxy-sn-glycerol
 CN d-Propylene glycol
 CN L-(+)-Propanediol
 CN L-(+)-Propylene glycol
 CN **L-1,2-Propanediol**
 CN S-(+)-Propane-1,2-diol
 FS STEREOSEARCH
 MF C3 H8 O2
 CI COM
 LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS,
 CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHM, DETHERM*,
 GMELIN*, PROMT, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

246 REFERENCES IN FILE CA (1962 TO DATE)
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 247 REFERENCES IN FILE CAPLUS (1962 TO DATE)

> d

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 57-55-6 REGISTRY

CN 1,2-Propanediol (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN (.+-.)-1,2-Propanediol

CN (.+-.)-Propylene glycol

CN (RS)-1,2-Propanediol

CN .alpha.-Propylene glycol

CN 1,2-(RS)-Propanediol

CN 1,2-Dihydroxypropane

CN 1,2-Propylene glycol

CN 1000PG

CN 2,3-Propanediol

CN 2-Hydroxypropanol

CN DL-1,2-Propanediol

CN dl-Propylene glycol

CN Dowfrost

CN Isopropylene glycol

CN Methylethyl glycol

CN Methylethylene glycol

CN Monopropylene glycol

CN PG 12

CN Propylene glycol

CN Sirlene

CN Solar Winter Ban

CN Solargard P

CN Ucar 35

FS 3D CONCORD

DR 63625-56-9, 4254-16-4, 190913-75-8

MF C3 H8 O2

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*,

BIOBUSINESS,

BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB,
DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
ENCOMPAT, ENCOMPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PHAR,

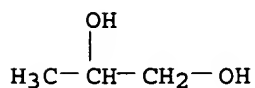
PIRA,

PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN,
USPAT2, USPATFULL, VETU, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

18615 REFERENCES IN FILE CA (1962 TO DATE)

2379 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

18657 REFERENCES IN FILE CAPLUS (1962 TO DATE)

19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)